other benefits are what make ethanol the cheaper option in the long run.

Response by Elijah: The price of ethanol might be higher than that of kerosene but it is through the carbon credits from the use of the stoves that Gaia will be able to subsidize the price of stoves and this will make the stoves affordable and allow for expansion of the project to other areas. Project Gaia will own the carbon credits from the project.

Q.6 Where will the stoves be distributed?

Answer by Wubshet: *The stoves will be distributed to households in Djibouti for this activity and later on they will be distributed to households in the refugee camps in Djibouti under a different activity.*

Comment: *The government should be more involved in the planning of the roll out of the project, as this is a new technology.*

Response by Elijah: *Before the project can be rolled out in Djibouti, Gaia will have to get the approval of the government entities involved in such projects and will not start its activities without meeting the requirements set by the Government of Djibouti.*

Minute 5: Role of Carbon Africa in the project

Elijah from Carbon Africa provided an overview of what Carbon Africa will be working on as far as the project is concerned as well as the objective of the sessions that were being facilitated by Carbon Africa during the meeting.

Minute 6: Climate Change and Carbon Credits

Elijah gave a presentation on what climate change is and the effect it has on the environment. He also discussed the effects that climate change might have in Djibouti as well as how carbon credits are generated from renewable energy projects. The stakeholders were also informed on the ownership of the carbon credits that would be generated from the use of the ethanol stoves and that the credits shall be owned by Project Gaia who will in turn use them to expand the project.

The Gold Standard and CDM were discussed and their differences pointed out in terms of rules and development stages.

Minute 7: Question and Answer session

Q.1 Who will support the project in Djibouti?

Answer by Elijah: *Gaia will establish an office in Djibouti for its distribution purposes and will ensure that it meets the necessary statutory requirements in Djibouti before they distribute the stoves to Djiboutian households. Gaia will establish a contact center in Djibouti for the same. The UNHCR and the Ministry of Environment will help Gaia in the project activities at the refugee camp. Gaia will own the credits that will be accrued from the use of the stoves and through this the project will be expanded to many other end-users in the country by subsidizing the stoves.*

Comment: *Sugar factories that produce ethanol produce more emissions when compared to emissions from the use of kerosene and charcoal in households*

Response by Elijah: *The emissions from the project are calculated using approved methodologies under the CDM and Gold Standard. These methodologies make sure the emission reductions are calculated in the most conservative way possible and no emissions from the project activities go unaccounted for.*

Minute 8: **Session on Do No harm**

Elijah from Carbon Africa gave a brief presentation on the Do No Harm Principles and Assessment. The stakeholders were informed about the safeguarding principles and their relation to the project.

Minute 9: **Introduction to Sustainable Development Benefits**

Elijah introduced the stakeholders to the four broad sustainable development indicators and the twelve specific indicators as outlined by the Gold Standard.

Minute 10: **Discussion on the sustainable development indicators**

After the introduction of the sustainable development indicators the floor was open for the stakeholders to give comments on what they thought would be the effect of the project in relation to each of the sustainable development indicators.

The stakeholders were asked to score the sustainable development indicators as positive, neutral or negative.

Minute 11: **Monitoring of the Sustainable Indicators**

The stakeholders were taken through the monitoring plan and were asked for their inputs on methods that they thought were suitable for monitoring the identified parameters.

Comment: *You have to consult more institutions*

Response by Wubshet: *The project consultation involved the invitation of a wide range of stakeholders ranging from local administration, Government institutions, Local and International NGOs and potential stove users through various methods.*

Response by Elijah: *There will be another round of consultation called the stakeholder feedback round where all the documentation on the project including the LSC report for this meeting will be made available and they can still provide inputs on the documentation and the project.*

Comment: Gaia should also work on solar projects which can provide more benefits for Djibouti

Response by Wubshet: *Gaia is currently focusing on distributing ethanol cook stoves and*

may look into other alternatives like solar cook stoves in the future

Minute 12: Discussion on Grievance mechanism

Mr. Elijah introduced the concept of the grievance and continuous input mechanism after which the stakeholders agreed on the use of a grievance book, telephone access and emails as channels for airing of grievances.

Comment: Gaia should set up an office in Djibouti City for easy physical access incase of any inquiry on their products.

Response by Elijah: *Before the commencement of the distribution of the stoves in Djibouti households, Gaia will have a sales point in Djibouti where grievances and any other concern about the products will be tackled when they arise. In the refugee camps, Gaia is going to work with the Ministry of Environment to collaborate with them together with UNHCR in the distribution of the stoves to the refugees.*

	Method Chosen (include all known details e.g. location of book, phone, number, identity of mediator)	**Justification**
Continuous Input / Grievance Expression Process Book	A book shall be placed at every distribution/sales Centre of the stoves once Gaia establishes a distribution center in Djibouti	By placing the book at the distribution/sales office the end users can easily write down their grievances and any inputs they may have. Gaia will check this book continuously.
Telephone access	The telephone number of the project supervisor shall be provided once the project begins its operations in Djibouti and establishes a contact center. Currently, the contact person for Gaia is: Wubshet Tedele based in Ethiopia: Tel no: +251116183540	Gaia will have a project supervisor in Djibouti who will be responsible for the project operations in Djibouti

Internet/email access	The email address of the project supervisor shall be provided once the project begins its operations in Djibouti Currently, the contact person for Gaia is: Wubshet Tedele based in Ethiopia: Email: wubshet.t.tsehayu@gmail.com Gold Standard Regional Manager: johann.thaler@goldstandard.org General Gold standard: info@goldstandard.org	Gaia will have a project supervisor in Djibouti who will be responsible for the project operations in Djibouti

ii. Minutes of other consultations

No other consultations were carried out for this CPA

iii. Assessment of all comments

Stakeholder comment	Was comment taken into account (Yes/ No)?	Explanation (Why? How?)
Gaia should also work on solar projects which can provide more benefits for Djibouti	No	Gaia is currently focusing on the distribution of ethanol cook stoves and may look into other alternatives like solar cook stoves in the future
You have to consult more institutions	Yes	The project had invited a wide range of stakeholders during the design consultation phase of the project. These stakeholders were also

		invited to attend the LSC meeting. Additionally, there is another round of consultation, the stakeholder feedback round where the documentation on the project including the LSC report will be shared publicly and they can still provide any inputs that they might want to add at that stage.
Emissions from the sugar factory are more compared to emissions produced from using charcoal and kerosene	No	The emissions are calculated using approved methodologies under the CDM and Gold Standard. These methodologies, where applicable, will determine the emissions from the production of ethanol in sugar factories as conservatively as possible.
Gaia should set up an office in Djibouti City for easy physical access incase of any inquiry on their products.	Yes	Before the commencement of the distribution of the stoves in Djibouti households, Gaia will have an office and a distribution center in Djibouti where grievances and any other concern about the products will be tackled when they arise. For refugee camps, Gaia is working with the Ministry of Environment to collaborate with them and the UNHCR in the distribution of the stoves

		to the refugees.
The Government should be more involved in the planning of the roll out of the project, as this is a new technology.	Yes	Before the project can be rolled out in Djibouti Gaia will have to meet the requirements set by the Government of Djibouti and get the approval of the various government entities involved in such projects.
Who will support the project in Djibouti	Yes	Gaia will establish an office in Djibouti for distribution purposes and will ensure that it meets the necessary statutory requirements in Djibouti before they distribute the stoves to Djiboutian households. Gaia will establish a contact center in Djibouti for the same. The UNHCR and the Ministry of Environment will help Gaia in the project activities at the refugee camp. Gaia will own the credits that will be accrued from the use of the stoves and through this the project will be expanded to many other end-users in the country by subsidizing the stoves.
What is the price of ethanol compared with the price of kerosene?	No	The price of ethanol at the time of publishing this report was quoted at 0.47USD per liter by the ethanol producing sugar

		while the cost of kerosene in Djibouti was at 0.90USD[6] per liter making ethanol a cheaper fuel than kerosene.

iv. **Revisit sustainability assessment**

Are you going to revisit the sustainable development assessment?	**Yes**	**No**
Please note that this is necessary when there are indicators scored 'negative' or if there are stakeholder comments that can't be mitigated	☐	☑

Give reasoning behind the decision
The sustainable assessment will not be revisited since there is no indicator that has been scored as negative after discussions with the stakeholders.

v. Summary of alterations based on comments

No aspect of the project will be modified since none of the stakeholder comments warrants such alterations of the project.

SECTION D. SUSTAINABLE DEVELOPMENT ASSESSMENT

D. 1. Own sustainable development assessment

i. 'Do no harm' assessment

[6] http://djiboutination.com/le-prix-du-litre-de-kerosene-nexcedera-plus-140-fdj-a-partir-de-demain-selon-le-ministre-du-budget/

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low, medium, high)	Mitigation measure
Human Rights			
The project respects internationally proclaimed human rights including dignity, cultural property and uniqueness of indigenous people. The project is not complicit in Human Rights abuses.	The project does not violate internationally proclaimed human rights. All participants are involved voluntarily, and the project adheres to the host country's commitment to the Universal Declaration of Human Rights (UDHR) and respect all human rights.	Low	Not needed.
The project does not involve and is not complicit in involuntary resettlement.	The proposed project does not involve and is not complicit in any resettlement, voluntary or involuntary.	Low	Not needed.
The project does not involve and is not complicit in the alteration, damage, or removal of any critical cultural heritage.	The project will not alter, damage or remove tangible property and sites having archeological, paleontological, historical, cultural, artistic, religious or cultural values. It will also not alter, damage or remove intangible forms of culture, such as cultural knowledge, innovations, and practices of communities embodying traditional lifestyles.	Low	Not needed.
Labour Standards			
The project respects the employees' freedom of	The project will not violate its employees' freedom of association	Low	Not needed.

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low, medium, high)	Mitigation measure
association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights.	and right to collective bargaining. The employees' are accorded freedom to associate with anyone of their choice and their right of collective bargain is entrenched in Djibouti's labour laws. Djibouti has signed ILO convention 98[7] (right to organise and collective bargaining) and ILO convention 87[8] (freedom of association).		
The project does not involve and is not complicit in any form of forced or compulsory labour	The project will not involve any forced labour and all employee services will be offered on a voluntary basis. In 1978, Djibouti ratified to ILO conventions 29[9] and 105[10] on forced labour	Low	Not needed.
The project does not employ and is not complicit in any form of child labour.	The project activity will not employ anyone below the age of 18 nor be complicit in any form of child labour, all those employed by the project will be adults who are voluntarily engaging in support of the project through legal	Low	Not needed.

[7] International Labour Organization- *Right to Organize and Collective Bargaining Convention:* Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312243:NO
[8] International Labour Organization- *Freedom of Association and Protection of the Right to Organise Convention.* Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312232:NO
[9] International Labour Organisation- *Forced Labour Convention.* Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312174:NO
[10] International Labour Organisation- Abolition of Forced Labour Convention. Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312250:NO

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low, medium, high)	Mitigation measure
	employment. In 2005, Djibouti ratified to ILO conventions 138[11] (minimum age) and 182[12] (worst form of child labour) and has legislation in place for national enforcement.		
The project does not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis.	The project does not discriminate against individuals and employment of staff is not based on gender, race, religion, and sexual orientation or on any other basis. Djibouti has signed ILO conventions 100[13] (equal remuneration) and 111[14] (discrimination in employment/occupation) and has enacted legislation under the Constitution of Djibouti for such, which is enforceable nationally.	Low	Not needed.
The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe and unhealthy	The project will ensure the safety of the workers involved in the distribution of the cook stoves and ethanol as well as the safety of the cook stove users handling the ethanol.	Low	Customers are trained on safety of operation of the cook stoves during commissioning and maintenance visits. Safety features of

[11] International Labour Organisation- *Minimum Age Convention.* Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312283:NO
[12] International Labour Organisation- *Worst Forms of Child Labour Convention*. Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312327:NO
[13] International Labour Organisation- *Equal Remuneration Convention.* Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312245:NO
[14] International Labour Organisation- *Discrimination (Employment and Occupation) Convention.* Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312256:NO

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low, medium, high)	Mitigation measure
work environments.	This is ensured through training the users on proper use of the stoves and ethanol. The project does not involve any work that has the potential to expose workers to unhealthy work environments or which are hazardous and potentially dangerous.		the cook stoves include a non-pressurized fuel tank that avoids spillage and a simple regulator to control the flame when in use.
Environmental Protection			
The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle. The principle can be defined as: "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken if some cause and effect relationships are not fully established scientifically."	The project activity entails the utilization of ethanol from sugar factories. The project activity (using ethanol powered cook stoves) does not involve planting, agricultural or similar activities, invasive species that are likely to cause harm. It does not also involve production of chemicals that are excessively dangerous to the environment. The project activity will not produce hazardous waste. The use of ethanol for cooking will reduce dangerous smoke and gases therefore being beneficial to the environment.	Low	Not needed.
The project does not involve and is not complicit in significant conversion or	The use of ethanol for cooking will reduce the demand for firewood and charcoal and subsequently this will	Low	Not needed.

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low, medium, high)	Mitigation measure
degradation of critical natural habitats, including those that are (a) legally protected, (b) officially proposed for protection, (c) identified by authoritative sources for their high conservation value, or (d) recognized as protected by traditional local communities	reduce deforestation in the areas around refugee camps.		
Anti corruption			
The project does not involve and is not complicit in corruption.	The project is not prone to corruption opportunities and is not involved or complicit in corruption. All transactions will be recorded and carried out in a transparent and traceable manner. Djibouti is a signatory to the UN Convention against Corruption. The Law on the prevention and combating of Corruption in Djibouti will be adhered to[15].	Low	Not needed.

ii. Sustainable development matrix

[15] http://www.undp-aciac.org/resources/ac/legal.aspx?lc=1

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Gold Standard indicators of sustainable development.	**If relevant copy mitigation measure from "do no harm" – table, or include mitigation measure used to neutralise a score of '–'**	Check **www.undp.or/mdg** and **www.mdgmonitor.org** Describe how your indicator is related to local MDG goals	Defined by project developer	Negative impact: score '-' in case negative impact is not fully mitigated score '0' in case impact is planned to be fully mitigated No change in impact: score 0 Positive impact: score '+'
Air quality	No mitigation measure required	MDG 7: Ensure environmental sustainability	Any positive effect on air quality is difficult to attribute directly to the project activity and thus difficult to monitor. This indicator is therefore scored "0" and will not be monitored.	0
Water quality and quantity	No mitigation measure required	MDG 7- Ensure Environmental Sustainability	***Parameter:*** Number of stoves sold and still in operation ***Explanation:***	+

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
			The number of stoves sold will mean households that would usually use wood fuel now use ethanol. With less wood fuel being used, this translates to more forests being preserved. Forests are key water catchment areas and if they are preserved, then consequently water catchment areas are conserved.	
Soil condition	No mitigation measure required	MDG 7: Ensure environmental sustainability	Any effect on the soil condition is difficult to attribute directly to the project activity. This indicator is therefore scored "0" and will not be monitored.	0
Other pollutants	No mitigation measure required	The project activity will not result in any noise or visual pollution to the environment	The indicator is scored "0" and will not be monitored	0

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Biodiversity	No mitigation measure required	MDG 7: Ensure environmental sustainability	Any positive influence of the project activity on biodiversity is difficult to assess and attribute directly to the project. Therefore, this indicator is scored "0" and will not be monitored	0
Quality of employment	No mitigation measure required	MDG 1: Eradicate extreme poverty and hunger	***Parameters***: – Number of employees trained and issued with certificates – Number of workshops held. ***Explanation:*** The project will require employees equipped with skills and knowledge to carry out distribution and maintenance of the cook stoves. Through the implementation of the project, a number of new employees will be hired to help in implementing the	+

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
			project including distribution and maintenance of the stoves. These employees will be trained on how to carry out their duties in a professional manner. This will translate to improved quality of employment.	
Livelihood of the poor	No mitigation measure required	MDG 1: Eradicate extreme poverty and hunger	The positive influence of project activity on livelihood of the poor is difficult to assess directly. Therefore, this indicator is scored "0" and will not be monitored	0
Access to affordable and clean energy services	No mitigation measure required	MDG 1: Eradicate extreme hunger and poverty MDG 4: Reduce child mortality MDG 5: Improve maternal health MDG 7: Ensure environmental sustainability	***Parameter:*** Number of ethanol cook stoves distributed **Explanation** The project will allow access to cook stoves that are affordable and that use a renewable and clean energy fuel. The CME will maintain records of the stoves distributed and	+

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
			this will show the extent to which the clean energy service has been embraced as a result of the project.	
Human and institutional capacity	No mitigation measure required	MDG 1: Eradicate extreme poverty and hunger MDG 3: Promote gender equality and empower women.	**Parameters**: - Number of trainings carried out by the project developer - Number of women employed by the project ***Explanation*** The project will offer training to the end users in order to equip them with the knowledge and understanding of how the ethanol cook stoves work. Capturing the number of women employed by the project, will show that the project has contributed positively to the improvement of human institutional capacity.	+

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Quantitative employment and income generation	No mitigation measure required	MDG 1: Eradicate extreme poverty and hunger	**Parameter:** - Number of people employed. ***Explanation:*** By capturing the number of people employed under the project will show that the project has led to an increase in the number of people employed as well as an increase in the number of employment opportunities.	+
Balance of payments and investment	No mitigation measure required	MDG 8: Develop a global partnership for development	It will be difficult to prove the direct positive effect on balance of payments and investment attributed to the project and thus the score will be '0' and therefore not monitored.	0
Technology transfer and technological self-reliance	No mitigation measure required	MDG 8: Develop a global partnership for development	***Parameters:*** – Number of stakeholder meetings and workshops carried out by the project implementer to sensitize people on the technology.	+

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
			– Number of participants in the meetings and workshops carried out. ***Explanation:*** Capturing the number of workshops and stakeholders' sensitization meetings carried out will show how the project has translated to technology transfer and technological self reliance	

Comments accompanying own sustainable development matrix

Air Quality: Ethanol cook stoves will be installed in households/commercial users/SMEs where non-renewable sources of biomass and/or fossil fuels are used for cooking purposes. This will reduce indoor air pollution through reduction in smoke, particulate matter and carbon dioxide emissions. Ultimately, the exposure of women and children to these pollutants will be reduced significantly thereby preventing the occurrence of respiratory health complications and eye diseases. Consequently, reduced consumption of wood fuel and charcoal will help conserve forest resources and ensure environmental sustainability

Water Quality and Quantity: The use of ethanol cook stoves will replace usage of kerosene and also replace the use of wood fuel for cooking. This will help reduce unsustainable harvesting of trees thereby helping restore and/or conserve water catchment areas. Conservation of the forest trees improves water quality through reduction of sediments in water bodies and trapping/filtering of other water pollutants in the forest litter.

Soil Condition: The use of ethanol as an alternative for wood fuel and kerosene will

reduce the cutting down of trees and loss of vegetation cover, thereby protecting the soil condition and fertility for that matter.

Other pollutants: No other pollutant related to the project activity has been identified.

Biodiversity: Deforestation leads to the loss of animal and plant species due to loss of their habitat. The introduction of ethanol fuel as an alternative for firewood and charcoal will help in forest conservation within the project boundary. These protected areas shall consequently provide a range of goods and ecological services while preserving natural and cultural heritage.

Quality of employment: Through the implementation of the project, a number of people will be hired to help in implementing the project including distribution and maintenance of the stoves. These employees will be trained on how to carry out their duties in a professional manner. This will translate to quality employment.

Livelihood of the poor: The project activity will improve the livelihoods of poor households in a myriad of ways. The project activity will provide clean and efficient household cooking solutions. Ethanol cook stoves will appreciably reduce indoor air pollution where most of the victims are women and children and become prone to respiratory health complications as a result. In addition, the amount of time and money spent gathering firewood or preparing charcoal will be freed for childcare, education or income-generating activities.

Access to affordable and clean energy services: The project seeks to provide affordable, cleaner cook stoves at a large scale. This will reduce money and time spent gathering firewood. Ethanol cook stoves will provide a clean source of energy by appreciably reducing indoor air pollution, which causes respiratory health problems.

Human and Institutional Capacity: Women and children are the primary collectors of firewood. The search for fuel exposes women and girls to attack, rape and gender violence as they venture into unsafe territories. Therefore, ethanol cook stoves project activity will protect women and girls from exposure to risks associated with firewood collection. It will also raise awareness of the health risks associated with cooking using non-renewable fuels. In addition, the project will employ both men and women who will in return earn income from the implementation of the project to meet their basic needs.

Quantitative employment and income generation: The project activity will hire staff members during the distribution and maintenance phases. This will lead to an increase in the number jobs within the project boundary and generation of income to meet basic needs.

Balance of payments and investment: The project activity will improve Djibouti's investment prospects in the clean energy sector to boost the country's economic growth.

Access to investment: The project activity will attract foreign and local investment in Djibouti in the clean energy sector. The investment will mainly focus on provision of cook stoves and ethanol. Local sugar industries and micro-distillers will also benefit from the project activity by supplying the ethanol required for the cook stoves.

Technology transfer and technological self-reliance: The project activity will involve training of local individuals on the usage of the ethanol cook stoves and their maintenance. By this the local populace will be able to further implement same kind of

clean technology by themselves at they will be more aware of it

D. 2. Stakeholders Blind sustainable development matrix

Indicator	**Mitigation measure**	**Relevance to achieving MDG**	**Chosen parameter and explanation**	**Preliminary score**
Gold Standard indicators of sustainable development	If relevant, copy mitigation measure from 'Do No Harm' assessment, and include mitigation measure used to neutralise a score of '-'	Check www.undp.org/mdg and www.mdgmonitor.org Describe how your indicator is related to local MDG goals	Defined by project developer	Negative impact: score '-' in case negative impact is not fully mitigated, score '0' in case impact is planned to be fully mitigated No change in impact: score '0' Positive impact: score '+'
Air quality	Not applicable		**Parameter** – Number of stoves sold **Explanation** The use of ethanol for cooking will reduce the amount of air pollution	+

			compared to when other fuels such as kerosene and firewood are used. Stakeholders were of the opinion that the number of stoves sold translates to increased use of ethanol, reduced usage of kerosene and therefore less pollution.	
Water quality and quantity	Not applicable		The use of less firewood would result in the preservation of water catchments. However, the stakeholders agreed that this effect would be difficult to measure and they scored it as neutral.	0
Soil condition	Not applicable		By saving forests the soil condition is also improved but this cannot be measured and well related to the project activity and it is therefore scored as neutral.	0

			However, there are many factors that play a role in the soil condition and the project cannot be exclusively linked to the improvement of the soil condition in its entirely.	
Other pollutants	Not applicable		The stakeholders found that there would be no other pollutants from the project activity or the use of ethanol for cooking	0
Biodiversity	Not applicable		Where fewer trees are cut down for use as firewood or charcoal, more plant species and the ecosystems they support are preserved. However, the stakeholders found it hard to support the notion that a quantifiable amount of biodiversity shall be preserved by the introduction of the project	0

			and therefore they scored this indicator as '0'	
Quality of employment	Not applicable		**Parameter:** – Number of employees trained and issued with certificates **Explanation:** By ensuring that project employees are trained periodically on providing better services to the stove users, the project will have equipped the employees with adequate skills to carry out their duties effectively.	+
Livelihood of the poor	Not applicable		The stakeholders felt that although the use of ethanol reduces the amount of time that women spend looking for firewood or charcoal and that more money may be available to households from the avoidance of kerosene use, this may not	0

			significantly affect the general livelihoods of the households in Djibouti. The effect on the livelihoods would also be difficult to measure Thus, this indicator was scored neutral by the stakeholders	
Access to affordable and clean energy services	Not applicable		**Parameter** – Number of stoves sold **Explanation** Through the project, a clean energy source for cooking will be made available as an alternative to kerosene and charcoal. The stakeholders were in agreement that the number of stoves sold and distributed by Gaia would be a suitable approach to monitor this indicator.	+
Human and	Not applicable		**Parameter**	+

institutional capacity			– Number of trainings conducted for end users **Explanation** As the stoves are to be distributed to households and training provided. The end users who are mostly women, the project proponent should keep records of these training exercises as a way of monitoring the improved skills particularly for the women.	
Quantitative employment and income generation	Not applicable		**Parameter** – Number of people employed by the project **Explanation** The project will create new employment opportunities in Djibouti and therefore Gaia should be able to maintain records of people employed by	+

			the project within Djibouti.	
Balance of payments and investment	Not applicable		Despite the benefits that the project will offer, it is not likely to attract domestic investment as the use of ethanol cookstoves is not part of the Government's strategy	0
Technology transfer and technological self-reliance	Not applicable		**Parameter** – Number of stoves sold **Explanation** The project will bring in a new stove technology to the country.	+

Comments resulting from the stakeholders' blind sustainable development matrix

Air quality
The use of ethanol for cooking will reduce the amount of air pollution compared to when other fuels such as kerosene and firewood are used.

Reduction in air pollution means that there are fewer amounts of harmful emissions in the air , which leads to improved health condition of the stove users through a reduction of respiratory illnesses.

With increased use of ethanol cook stoves, there is less pollution and therefore improved air quality.

Water quality and quantity
The use of less firewood would result in the preservation of water catchments where less firewood is used and therefore fewer trees are cut down. However, this effect would be difficult to measure.

Soil condition

By saving forests the soil condition is also improved but this cannot be measured and well related to the project activity and therefore it is scored as neutral. However there are many other factors that play a role in the maintenance of soil condition and the project cannot be exclusively linked to the improvement of the soil condition.

Other pollutants
No other pollutants associated with the project activity or the use of ethanol for cooking was identified and thus this was scored as neutral

Biodiversity
Where fewer trees are cut down for use as firewood or charcoal, more plant species and the ecosystems they support are preserved. However it is hard to support the notion that a quantifiable amount of biodiversity shall be impacted by the introduction of the project and thus this indicator should be marked as neutral.

Quality of employment
By ensuring that project employees are trained continuously on providing better services to the stove users, the project will have equipped the project employees with adequate skills to carry out their duties effectively.

The quality of employment can be measured through the number of trainings carried out for the employees.

Livelihood of the poor
The project cannot be distinctly related to a change in the livelihood of the poor since the price of the stove at the moment cannot be said to be within reach of the poor.

Access to affordable and clean energy services
Through the project, a clean energy stove for cooking will be made available as an alternative to kerosene and charcoal or firewood.

The number of stoves sold and distributed by Gaia can be used to monitor this indicator

Human and institutional capacity
Training of users on the use of the technology will increase human capacity of the people where the stove will be sold while also training of the employees who sell the stoves.

Quantitative employment and income generation
The project will create new employment opportunities in Djibouti and therefore Gaia should be able to maintain records of people employed for the project within Djibouti

Balance of payments and investment
As much as the project is an investment it's not possible to prove the change of country's GDP attributed to the project or it will be minimal such that it cannot be attributed to the project.

Technology transfer and technological self-reliance
The project will bring in a new stove technology to the country. Also, the project will invite more suppliers within Djibouti to start distributing similar technology stoves.

An analysis of difference between own sustainable development matrix and the one resulting from the blind exercise with stakeholders is provided below.

Indicator	Own SD matrix	Blind exercise score	Consolidated score
Air quality	0	+	+
Water quality and quantity	+	0	0
Soil condition	0	0	0
Other pollutants	0	0	0
Biodiversity	0	0	0
Quality of employment	+	+	+
Livelihood of the poor	0	0	0
Access to affordable and clean energy services	+	+	+
Human and institutional capacity	+	+	+
Quantitative employment and income generation	+	+	+
Balance of payments and investment	0	0	0
Technology transfer and technological self-reliance	+	+	+

The SD matrix had identical scores for all parameters except for the Air Quality and Water Quality and Quantity indicators. These identical scores were maintained in the final consolidated matrix. For the indicators where there was a differing score, the stakeholder's score was used in the final consolidated matrix after consultation with the stakeholders.

D. 3. Consolidated sustainable development matrix

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Gold Standard indicators of sustainable development	If relevant, copy mitigation measure from 'Do No Harm' assessment, and include mitigation measure used to neutralise a score of '-'	Check www.undp.org/mdg and www.mdgmonitor.org Describe how your indicator is related to local MDG goals	Defined by project developer	Negative impact: score '-' in case negative impact is not fully mitigated, score '0' in case impact is planned to be fully mitigated No change in impact: score '0' Positive impact: score '+'
Air quality	No mitigation measure required	MDG 7: Ensure environmental sustainability	**Parameter** – Number of stoves sold **Explanation** The use of ethanol for cooking will reduce the amount of air pollution compared to when other fuels such as kerosene and firewood are used.	+

			The number of stoves sold translates to increased use of ethanol and therefore less air pollution.	
Water quality and quantity	No mitigation measure required	MDG 7- Ensure Environmental Sustainability	The use of less firewood would result in the preservation of water catchments. The number of stoves sold would imply that the use of wood fuel has decreased among the end users of the technology, leading to more forests being preserved and therefore resulting in conservation of water catchment areas. However, this effect would be difficult to measure and it is scored as neutral	0
Soil condition	No mitigation measure required	MDG 7: Ensure environmental sustainability	By saving forests where fewer trees are cut down for firewood, the soil condition in forest areas is	0

			improved. However, there are many other factors that play a role in the soil condition and the project cannot be exclusively linked to the improvement of the soil condition. Because of this, the indicator is scored as neutral.	
Other pollutants	No mitigation measure required	No "other pollutant" has been identified that is of relevance to the project activity.	No other pollutants associated with the project activity or the use of ethanol for cooking was identified.	0
Biodiversity	No mitigation measure required	MDG 7: Ensure environmental sustainability	Where fewer trees are cut down for use as firewood or charcoal, more plant species and the ecosystems they support are preserved. However it is hard to support the notion that a quantifiable amount of biodiversity shall be preserved by	0

			the introduction of the project and thus this indicator is scored as '0'	
Quality of employment	No mitigation measure required	MDG 1: Eradicate extreme poverty and hunger	**Parameter:** – Number of employees trained and issued with certificates **Explanation:** By ensuring that project employees are trained periodically on providing better services to the stove users, the project will have equipped the employees with adequate skills to carry out their duties effectively.	+
Livelihood of the poor	No mitigation measure required	MDG 1: Eradicate extreme poverty and hunger	The use of ethanol reduces the amount of kerosene that is used for cooking. As a result, more money may be available to households from the avoidance of kerosene use. However, this may not	0

			significantly affect the general livelihoods of the households in Djibouti. Thus, this indicator is scored as neutral.	
Access to affordable and clean energy services	No mitigation measure required	MDG 1: Eradicate extreme hunger and poverty MDG 4: Reduce child mortality MDG 5:Improve maternal health MDG 7: Ensure environmental sustainability	**Parameter** – Number of stoves sold **Explanation** Through the project, a clean fuel for cooking will be made available as an alternative to kerosene and charcoal.	+
Human and institutional capacity	No mitigation measure required	MDG 1: Eradicate extreme poverty and hunger MDG 3: Promote gender equality and empower women.	**Parameter 1**: – Number of trainings carried out by the project developer – Number of women employed by the project. ***Explanation*** The project will offer training to the end-user population in order to equip them with the necessary	+

			knowledge of how the technology works. Capturing the number of women employed by the project will show that the project has contributed positively to the improvement of human institutional capacity, particularly women.	
Quantitative employment and income generation	No mitigation measure required	MDG 1: Eradicate extreme poverty and hunger	**Parameter:** – - Number of project employees **Explanation** The project will create new employment opportunities in Djibouti and therefore Gaia should be able to maintain records of people employed for the project within Djibouti	+
Balance of payments and investment	No mitigation measure required	MDG 8: Develop a global partnership for development	Despite the benefits that the project will offer, it is not likely to attract domestic investment as	0

			the use of ethanol cook stoves is not part of the Government's strategy	
Technology transfer and technological self-reliance	No mitigation measure required	MDG 8: A global partnership in Development. .	**Parameters** – Number of stakeholder sensitization meetings – Number of training sessions for end users **Explanation** The project will bring in a new stove technology to the country. Capturing the number of workshops and stakeholder sensitization meetings carried out will show how the project has translated to technology transfer and technological self reliance	+

Justification choices, data source and provision of references	
Air quality	About 1.3 million people die prematurely every year

	because of exposure to indoor air pollution from biomass[16]. The majority of those exposed are women, who are normally responsible for food preparation and cooking, and infants/young children who are usually with their mothers near the cooking area. According to the Global Alliance for Clean Cookstoves, over 40% of the world's population cooks with open fires inside their homes, using biomass like wood and charcoal as cooking fuel[17]. Poor indoor air quality is a recognized risk factor for acute respiratory infections in children and a known risk factor for respiratory diseases in adults[18]. The use of ethanol cook stoves will reduce the levels of air pollution from particulate matter and carbon monoxide to levels below WHO guidelines[19].
Water quality and quantity	The interactions between forests and water and the benefits of forests for water supply are multiple. Through the stabilisation of soils, forests minimize erosion and hence reduce the impairment of water quality due to sedimentation. Deforestation will increase, as more wood for fuel is needed, accelerating erosion and leaching and increasing water pollution. Water availability is the main hindrance to agricultural productivity and livelihood security in Djibouti. Water availability also contributes to developing agro-pastoral systems highly resilient to increasing climate and rainfall variability. As a result of Djibouti's harsh arid and semi-arid climate, water in the country is very scarce[20]. Many people face diseases and health problems, often caused by poor sanitation and a shortage of clean water. According to UNICEF, more than 49% of people in the rural areas in Djibouti do not have access to a protected source of drinking water[21].
Soil condition	Inappropriate land use activities like deforestation often cause changes in the soil condition, which in turn contributes to soil erosion. Soil health and maintenance of

[16] International Energy Agency Report (2010): *Energy For Cooking In Developing Countries*
[17] Global Alliance for Clean Cookstoves. *Cookstoves and Non-Communicable Diseases [Online]*. Available at: http://www.cleancookstoves.org/resources/fact-sheets/cookstoves-and-disease-1.pdf [Accessed: 19 October 2013]
[18] Smith K, Samet J, Romieu I, Bruce N. (2000): *Indoor air pollution in developing countries and acute respiratory infections in children.* Thorax, 55: 518-532.
[19] Pennise, D., et al. Indoor air quality impacts of an improved wood stove in Ghana and an ethanol stove in Ethiopia. Energy for Sustainable Development [online]. Elsevier. June 2009, vol. 13(2). Available from: https://cleancookstoves.org/binary-data/RESOURCE/file/000/000/91-1.pdf
[20] UNDP (2013): *Environment and Energy- Djibouti Project Brief.* Available at: http://www.undp-alm.org/sites/default/files/downloads/projectbrief_-_djibouti-af_-_march2013.pdf
[21] UNICEF (2011). *Crisis in the Horn of Africa. Humanitarian Action Update:* Available at: http://www.mercyworld.org/_uploads/projects/125-2614bb54/userassets/files/2176%20Horn%20of%20Africa%20Emergency.pdf

	soil fertility are of vital importance for the people of Djibouti and for the country's agricultural production and economy. Land degradation is a serious problem and is a key barrier to achieve sustainable agricultural yields[22] The introduction of ethanol as an alternative source of energy for firewood and charcoal will reduce the cutting down of trees and prevent loss of vegetation cover thereby protecting the soil condition essential for farm productivity. In Djibouti, vegetation cover is significantly less than in the past, partly due to climate change (it has become hotter and drier), and also due to the impact of human activities like felling trees for wood fuel and overgrazing by the pastoralists[23].
Other pollutants	No other pollutants resulting from the project activity have been identified.
Biodiversity	Deforestation leads to the loss of plant species as well as animal species that lose their habitats [24]. The introduction of ethanol fuel as an alternative to firewood and charcoal will help in conservation of forests and the diversity of biological resources and processes available for future generations within the project boundary. According to Djibouti's National Biodiversity Strategy and Action Plan, the principal issues to be addressed include alleviation of advanced degradation caused by anthropogenic pressures like deforestation[25].
Quality of employment	Unemployment remains the crucial social and economic challenge for Djibouti. The rate of unemployment is estimated at 60% of the total population and 90% of youths, 15 to 24 years of age, are unemployed [26]. The project activity will lead to training and employment of staff members and artisans during the distribution and maintenance phases within the project boundary. Through training, project employees will benefit with skills that they can then apply in the long term in their positions under the project or in other employment positions.

[22] Berry, L., 2003, Land degradation in Djibouti: its Extend and Impact. ftp://ftp.fao.org/agl/agll/ladadocs/DJIBOUTI_LD_CASE_STUDIES.doc

[23] USAID/REDSO (2005). Appendix A. *Djibouti Environmental Analysis: Tropical Forests, Biodiversity and Environmental Management.* http://pdf.usaid.gov/pdf_docs/pa00jx75.pdf

[24] FAO (2001): *State of the World's Forests*: www.fao.org/docrep/fao/003/y0900e/y0900e00.pdf

[25] Ministry of Housing, Urbanisation and Environment. (2006) *National Biodiversity Strategy Action Plan* https://www.cbd.int/doc/world/dj/dj-nbsap-01-fr.pdf

[26] International Monetary Fund (2013) *Country Report: Djibouti* http://www.imf.org/external/pubs/ft/scr/2013/cr1378.pdf

Livelihood of the poor	A household survey conducted in Djibouti showed that poverty has affected 74.4% of the population, 42.2% of who were in a situation of extreme poverty[27]. The project activity will provide clean and efficient household cooking solutions. Ethanol cookstoves will appreciably reduce indoor air pollution. Most of the victims of indoor air pollution are women and children and they are prone to respiratory health complications as a result of this. In addition, the amount of time and money spent gathering firewood or preparing charcoal will be freed for childcare, education or income-generating activities. Consequently, the project activity will protect women and girls from exposure to risks associated with firewood collection and use of kerosene stoves. It will also raise awareness of the health risks associated with cooking using non-renewable fuels.
Access to affordable and clean energy services	In developing countries, especially in rural areas, 2.5 billion people rely on biomass to meet their energy needs for cooking. This number is expected to increase to over 2.7 billion by 2030 because of population growth.[28] According to Djibouti Multiple Indicators Survey, over 80% of Djibouti's households use kerosene for household needs, but its high cost remains a factor limiting access on the part of poor households, for which firewood constitutes the substitute energy source, primarily in rural areas and in nomad encampments[29]. Ethanol as an alternative to firewood, charcoal and fossil fuels is an efficient and clean source of energy that will reduce indoor air pollution.
Human and institutional capacity	Despite legal efforts and creation of a Ministry for the Promotion of Women and Family Planning in 2008, major gender disparities remain in literacy and access to jobs. Wide gender disparity persists, with only 39.5% of women literate in 2012 compared with 60.1% of men[30]. Djibouti's Human Development Index (HDI) value for 2013 is 0.467—which is in the low human development category—positioning the country at 170 out of 187 countries and territories[31]

[27] National Initiative for Social Development (INDS). *Poverty Reduction Strategy Paper (PRSP)*
[28] IEA Report: *Energy For Cooking In Developing Countries* (2010).
[29] Ministère de la Santé République de Djibouti (2006) *Enquête Djiboutienne à Indicateurs Multiple (EDIM)* http://www.who.int/fctc/reporting/party_reports/djibouti_annex1_mics_report_2006_fr.pdf
[30] Africa Development Bank (2014) *African Economic Outlook: Djibouti*
[31] UNDP (2013) *Human Development Index Trends*: *Djibouti.* Accessed at: http://hdr.undp.org/en/countries/profiles/DJI

	Introduction of the ethanol cook stoves project will train and employ both men and women who will in return earn income to provide for their basic needs.
Quantitative employment and income generation	The project activity will train and employ local individuals during the distribution and maintenance phases of the ethanol cook stoves. The maintenance phase of the cook stoves is the entire duration of the crediting period for the project activity. This will lead to an increase in the number of jobs within the project boundary and generation of income for those employed for the duration of the project activity. This income will be useful for meeting basic needs and improving their livelihood.
Balance of payments and investment	Djibouti is a country with few resources and recognizes the crucial need for foreign investment to stimulate economic development and support its balance of payments. Djibouti has an estimated annual real GDP growth rate of 5% and inflation is not a concern, due to the fixed tie of the Djiboutian franc to the US dollar (177.7 Djibouti Francs: 1 US dollar[32]. Foreign direct investment totalled 21% of Djibouti's GDP in 2012.
Technology transfer and technological self-reliance	The project activity will involve training of local individuals on the distribution and maintenance of the ethanol cook stoves. The stoves recipients will also get trained on safety measures in handling and operating the cook stoves and ethanol. The ethanol cook stoves will replace woody biomass and/or fossil fuels within the project boundary. Ethanol cook stoves are efficient and provide clean energy with no emission of green house gases and particulate matter. The technical design of the ethanol cook stoves makes it safe and easy to operate.

SECTION E. SUSTAINABILITY MONITORING PLAN

E. 1. Discussion on Sustainability monitoring Plan

No	1

[32] World Trade Organization (2014). *Trade Policy Review of Djibouti*. https://www.wto.org/english/tratop_e/tpr_e/s305_e.pdf